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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,122	03/29/2001	Kavitha Vallari Devara	US 010134	5639
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PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			SALTARELLI, DOMINIC D	
			ART UNIT	PAPER NUMBER
			2623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/821,122	Applicant(s) DEVARA, KAVITHA VALLARI	
	Examiner Dominic D. Saltarelli	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed February 21, 2006 have been fully considered but they are not persuasive.

First, regarding claims 17-20, applicant's amendments to claim 17 does not overcome the 35 U.S.C. 101 rejection, as a claimed signal, *per se*, is not statutory subject matter, as described below.

Second, regarding claim 1, 5, 9, 13, and 17, applicant argues that no combination of Tranchard and Feder disclose the claimed limitations of forming a new transport stream if sufficient bandwidth is available and determining if sufficient bandwidth is available from said estimate of future available bandwidth and said required insertion bandwidth.

In response, the examiner must note that the "average bandwidth requirements for particular programs and/or WWW sites" (Feder, paragraph 371) are not limited to the insertion content, but to all content being managed by the system. Thus Feder teaches enabling a system to look ahead and determine what the future available bandwidth will be by accessing a storage and retrieving the average bandwidth requirements of the content to be delivered (see also, Feder, paragraph 367). In the same vein, Feder also teaches, as noted by applicant, estimating the required bandwidth of insertion content (applicant's remarks, page 17, last paragraph). Further, the claimed limitation of insertion content only "if sufficient bandwidth is available" is met by the Tranchard

reference, as only null packets are being replaced, thus, content is only inserted insomuch as there is available bandwidth for said insertion.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 17-20 are directed towards a signal bearing a data stream. For claimed limitations to comprise statutory subject matter, "The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02." see MPEP 2106. First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine. A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter. A manufacture is also defined as the residual class of product. 1 Chisum, § 1.02[3] (citing W. Robinson, The Law of Patents for Useful

Inventions 270 (1890)). 56 A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 22 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Claim 22 recites using an electronic program guide, event information tables, and history tables tracking bandwidth utilization as a function of a time of day, wherein the originally filed specification states that use of history tables is an alternative to using an electronic program guides, clearly distinguishing them to two distinct embodiments (see applicant's specification, page 16, lines 8-20).

Claim Rejections - 35 USC § 103

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-5, 7, 9, 11-13, 17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tranchard et al. (EP 0 926 894 A1, of record) [Tranchard] in view of Feder et al. (US 2001/0024239 A1, of record) [Feder].

Regarding claims 1, 5, 9, 13, and 17, Tranchard discloses a transceiver (fig. 1) comprising:

an input connection receiving an incoming transport stream (multiplexer 4 shown in fig. 1, col. 5, lines 26-46);

an output connection from which a new transport stream is transmitted (modulator 5 shown in fig. 1, col. 6, lines 14-18), said new transport stream include at least portions of said incoming transport stream (only certain portions are filtered out of the stream, col. 8 line 54 – col. 9 line 13);

an adaptive data insertion mechanism (scrambler 1 shown in fig. 1, illustrated in fig. 2, col. 7, lines 8-13) for inserting data within a transport stream without destructive disturbance (using packet insertion unit 25 shown in fig. 2, col. 10, lines 18-25) comprising:

a bandwidth estimator producing an estimate of available bandwidth within said transport stream (PID counter 21 shown in fig. 2, col. 8, lines 29-42);

a scheduler (packet insertion unit 25 shown in fig. 2) prioritizing and scheduling insertion of content to be inserted within said transport stream based upon said estimate of available bandwidth of said insertion content obtained from a source separate from said incoming transport stream (col. 10, lines 18-56); and an insertion unit (packet insertion unit 25 shown in fig. 2) inserting scheduled insertion content within said transport stream by replacement of selected replaceable content within said transport stream to form a new transport stream if sufficient bandwidth is available (only null packets are being replaced, thus, content is only inserted insomuch as there is available bandwidth for said insertion, col. 10, lines 18-25).

Tranchard fails to disclose inserting content based upon the required insertion bandwidth and producing an estimate of future available bandwidth within said transport stream from future programming to be transmitted by said transport stream, wherein said sufficient bandwidth being determined from said estimate of future available bandwidth and said required insertion bandwidth.

In an analogous art, Feder teaches storing the bandwidth requirements for particular programming, so that said values may be used in better predicting future bandwidth considerations (paragraphs 371-373) and inserting content based upon available bandwidth (allocation of bandwidth for different services based on needs, paragraph 367, 368, and 373).

It would have been obvious at the time to a person of ordinary skill in the art to modify the data insertion mechanism of Tranchard to include storing the

bandwidth requirements for programming and inserting content based upon available bandwidth, as taught by Feder, so that said values may be used in better predicting future bandwidth considerations and for dynamic determination of content insertion, as said stored values provide indications of the amount of bandwidth which will be utilized by each piece of content individually and collectively (when added together). This includes the bandwidth utilized by content in transmission and content to be inserted, wherein the content to be inserted is associated with the required bandwidth and the content in transmission at a future time is associated with the estimate of future available bandwidth.

Regarding claims 3, 7, 11, and 19, Tranchard and Feder disclose the data insertion mechanism, transceiver, method, and data transport stream of claims 1, 6, 9, and 17, wherein said insertion unit (25) replaces selected packets within said transport stream which include one of one or more selected packet type identifiers (PID values) with packets for said insertion content while passing packets which include packet type identifiers other than said selected packet type identifiers to for said new transport stream (only the null packets are replaced for insertion of content, Tranchard, col. 10, lines 18-56).

Regarding claims 4, 12, and 20, Tranchard and Feder disclose the data insertion mechanism, method, and data transport stream of claims 3, 11, and 19,

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wherein said insertion unit (25) replaces null packets (Tranchard, col. 10, lines 18-25) within an MPEG-2 transport stream (Tranchard, col. 4, lines 52-57).

7. Claims 2, 6, 8, 10, 14-16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tranchard and Feder as applied to claims 1, 5, 9, 13, and 17 above, and further in view of Sohraby (6,192,049, of record).

Regarding claims 2, 6, 10, 14, and 18, Tranchard and Feder disclose the data insertion mechanism, transceiver, method, computer program product, and data transport stream of claims 1, 5, 9, 13, and 17, wherein said bandwidth estimator produces said estimate of future available bandwidth from information regarding current programming transmitted by said transport stream (Feder, paragraph 371), but fail to disclose said bandwidth estimator also produces said estimate of future available bandwidth from periodic bandwidth utilization measurements for said transport stream.

In an analogous art, Sohraby teaches a network routing method wherein bandwidth utilization is periodically measured to ensure a more accurate prediction of network congestion and available resources (col. 2, lines 25-39 and col. 3, lines 30-38).

It would have been obvious at the time to a person of ordinary skill in the art to modify the data insertion mechanism, transceiver and method of Tranchard and Feder to include producing an estimate of future available bandwidth from periodic bandwidth utilization measurements, as taught by Sohraby, for the

benefit of providing a more accurate prediction of available bandwidth that compensates for factors such as network congestion and available resources.

Regarding claim 8, Tranchard, Feder, and Sohraby disclose the transceiver of claim 6, wherein said insertion unit (25) replaces null packets (Tranchard, col. 10, lines 18-25) within an MPEG-2 transport stream (Tranchard, col. 4, lines 52-57).

Regarding claim 15, Tranchard, Feder, and Sohraby disclose the computer program product of claim 14, wherein the instructions further comprise replacing selected packets within said transport stream which include one of one or more selected packet type identifiers (PID values) with packets for said insertion content while passing packets which include packet type identifiers other than said selected packet type identifiers to for said new transport stream (only the null packets are replaced for insertion of content, Tranchard, col. 10, lines 18-56).

Regarding claim 16, Tranchard, Feder, and Sohraby disclose the computer program product of claim 15, wherein said instructions include replacing null packets (Tranchard, col. 10, lines 18-25) within an MPEG-2 transport stream (Tranchard, col. 4, lines 52-57).

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tranchard and Feder as applied to claim 1 above, and further in view of Wu et al. (7,016,337) [Wu].

Regarding claim 21, Tranchard and Feder disclose the data insertion mechanism of claim 1, but fail to disclose said scheduler is further configured to prioritize and schedule said insertion of said insertion content within said transport stream based upon bit rate requirement of said insertion content, priority of said insertion content, and remaining available bandwidth within said estimate of future available bandwidth.

In an analogous art, Wu teaches a data insertion mechanism wherein a scheduler is configured to prioritize and schedule insertion of content within a channel based upon bit rate requirement of said insertion content, priority of said insertion content, and remaining available bandwidth within the channel (col. 13, lines 1-56, wherein the scheduling table provides priority data indicating the priority of content under the constraints of needed versus available bandwidth), providing an management of data insertion that does not exceed channel capacity (col. 5 line 55 – col. 6 line 26).

It would have been obvious at the time to a person of ordinary skill in the art to modify the data insertion mechanism of Tranchard and Feder to configure the scheduler to prioritize and schedule insertion of content within a channel based upon bit rate requirement of said insertion content, priority of said insertion content, and remaining available bandwidth within the channel, as taught by Wu,

for the benefit of providing management of data insertion that is careful to not exceed channel capacity.

9. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tranchard and Feder as applied to claim 1 above, and further in view of Rudrapatna et al. (5,592,470) [Rudrapatna].

Regarding claims 22 and 23, Tranchard and Feder disclose the data insertion mechanism of claim 1, but fail to disclose said future programming information is obtained from an electronic program guide, event information tables, and history tables tracking bandwidth utilization as a function of a time of day.

In an analogous art, Rudrapanta teaches tracking bandwidth utilization as a function of time of day to identify traffic patterns (col. 5, lines 1-25).

It would have been obvious at the time to a person of ordinary skill in the art to modify the data insertion mechanism of Tranchard and Feder to include tracking bandwidth utilization as a function of time of day, as taught by Rudrapatna, for the benefit of identifying traffic patterns that indicate the usage or need for bandwidth at different times.

Tranchard, Feder, and Rudrapatna fail to disclose said future programming information is obtained from an electronic program guide and event information tables.

Examiner takes official notice that event information tables [EITs] are a standardized form of electronic program guide [EPG] information, as described in the Program and System Information Protocol [PSIP], which provide information on future programming in a standardized format.

It would have been obvious at the time to a person of ordinary skill in the art to modify the data insertion mechanism of Tranchard, Feder, and Rudrapatna to include said future programming information is obtained from EITs (which are the basic components of an EPG), conforming to and effectively utilizing the PSIP specification, which is an industry standard for informing systems of both future and current programming information.

10. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tranchard and Feder as applied to claim 1 above, and further in view of Jeffrey (6,567,981).

Regarding claim 24, Tranchard and Feder disclose the data insertion mechanism of claim 1, wherein said mechanism is capable of reducing the desired quality in order to insert content, (Feder, paragraph 372), but fail to disclose an override unit configured to force the insertion of content even when said sufficient bandwidth is not available.

In an analogous art, Jeffrey teaches including an override unit in a service provider that enables the insertion of content at any time (col. 12, lines 19-22), enabling for the insertion of emergency broadcasts.

It would have been obvious at the time to a person of ordinary skill in the art to modify the data insertion mechanism of Tranchard and Feder to include an override unit configured to force the insertion of content even when said sufficient bandwidth is not available, as taught by Jeffrey, for the benefit of inserting emergency broadcasts, such as, for example, emergency storm warnings.

Regarding claim 24, Tranchard and Feder disclose the data insertion mechanism of claim 1, but fail to disclose an override unit configured to insert further insertion content instead of said scheduled insertion content when said further insertion content has a higher priority than said scheduled insertion content.

In an analogous art, Jeffery teaches including an override unit in a service provider that enables the insertion of higher priority content at any time (col. 12, lines 19-22), enabling for the insertion of emergency broadcasts.

It would have been obvious at the time to a person of ordinary skill in the art to modify the data insertion mechanism of Tranchard and Feder to include an override unit configured to insert further insertion content instead of said scheduled insertion content when said further insertion content has a higher priority than said scheduled insertion content, as taught by Jeffrey, for the benefit of inserting emergency broadcasts, such as, for example, emergency storm warnings.

Conclusion

11. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dominic D. Saltarelli whose telephone number is (571) 272-7302. The examiner can normally be reached on Monday - Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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